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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/985,954	11/06/2001	Marcus Pfeifer	33766W064	4175

7590 07/26/2007
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EXAMINER

DUONG, THANH P

ART UNIT PAPER NUMBER

1764

MAIL DATE DELIVERY MODE

07/26/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/985,954

Applicant(s)

PFEIFER ET AL.

Examiner

Tom P. Duong

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 11-15, 17, 18 and 29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 11-15, 17, 18 and 29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 01/16/07

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 3, 2006 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claim 2 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In claim 2, there is no written description of the term "vanadia" as filed on 11/6/01.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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2. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 2, the term "vanadia" is indefinite and inaccurate.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 29 is rejected under 35 U.S.C. 102(e) as being anticipated by Feeley et al. (6,471,924). Feeley et al. '924 discloses an exhaust gas treatment unit (Figure 2) for the selective catalytic reduction of nitrogen oxides under lean exhaust gas conditions, comprising: (a) an oxidation catalyst (30) for oxidizing nitrogen monoxide in exhaust gas to nitrogen dioxide; and, (b) downstream of the oxidation catalyst a single catalyst member comprising a honeycomb support (Col. 4, lines 37-42) and a first layer (20a) and a second layer (20b), wherein (i) the first layer (20a) contacts the honeycomb support and comprises one or more storage components for storing nitrogen oxides as nitrates, wherein the one or more storage components consist essentially of one or

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more compounds of an element selected from the group consisting of an alkali metal, an alkaline earth metal, and cerium; (Col. 10, lines 1-34) and (ii) wherein the second layer is in contact with exhaust gas and comprises a catalytically active component for selective catalytic reduction of nitrogen oxide (Col. 7, lines 34-45, Col. 8, lines 11-37, and Col. 10 – Col. 11).

Instant claim 29 structurally reads on the apparatus of Feeley et al. '924.

4. Claims 1-4, 13, and 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 723,805. With respect to claims 1-2, EP 723,805 discloses an exhaust gas treatment unit comprising: at least one catalyst with a catalytically active component for selective catalytic reduction, such as vanadium-titanium dioxide and at least one storage component for nitrogen oxides including noble metal, such as platinum, etc., by forming nitrates (page 13, lines 1-9) and at least one of alkali earth metal, alkali metal, etc. (see, for example, page 9, lines 48-58; page 11, lines 54-58, page 12, lines 36-45). EP 723,80 further discloses that an oxidation catalyst 3 is located in the exhaust gas treatment unit, upstream of the catalyst. With respect to storage component for NO_x comprises no catalytically active platinum group metals. EP '805 discloses the selection for the NO_x storage/decomposition catalyst (page 7, lines 1-35) for a given exhaust gas treatment is depended on the oxidizing ability and its temperature dependency (for example, Pt of high oxidizing ability and low optimum temperature range, Cr is used for low oxidizing ability and higher optimum temperature range) (page 9, lines 5-15). Thus, the exhaust gas treatment unit of EP '805 discloses

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at least one embodiment wherein said storage component comprises no catalytically active platinum group metals. With respect to claims 3-4, EP 723,805 discloses that the catalytically active component also contains acid form of zeolite (see, for example, page 10, lines 1-9). With respect to claim 13, EP 723,805 discloses that the NO_x storage/decomposition catalyst also comprises support oxide, such as alumina and the NO_x storage/decomposition catalyst is present in form of coating on an inert carrier honeycomb structure (see, for example, page 7, lines 30-34). With respect to claims 17-18, the catalyst 7a of the plurality of catalysts 7a-c in EP 723,805 is considered as a hydrolysis catalyst, and the catalyst 7c of the plurality of catalysts 7a-7c or the catalyst 8 is considered as an ammonia barrier catalyst.

Instant claims 1-4, 13, and 17-18 structurally read on the apparatus of EP 723,805.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

The art area applicable to the instant invention is that of catalytic converter.

One of ordinary skill in this art is considered to have at least a B.S. degree, with additional education in the field and at least 5 years practical experience working in the art; is aware of the state of the art as shown by the references of record, to include those cited by applicants and the examiner (*ESSO Research & Engineering V Kahn & Co*, 183 USPQ 582 1974) and who is presumed to know something about the art apart from what references alone teach (*In re Bode*, 193 USPQ 12, (16) CCPA 1977); and who is motivated by economics to depart from the prior art to reduce costs consistent with the desired product characteristics. *In re Clinton* 188 USPQ 365, 367 (CCPA 1976) and *In re Thompson* 192 USPQ 275, 277 (CCPA 1976).

5. Claims 1-2, 11, 12, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 666,099 (hereinafter EP '099) in view of EP 0723805 (hereinafter EP '805). With respect to claims 1-2, EP '099 discloses an exhaust gas treatment unit comprising: at least one catalyst having a refractory inorganic oxide, e.g. titania, a catalytically active component for selective catalytic reduction of nitrogen oxides, e.g. vanadium (page 7, lines 47-55), and at least one storage component for nitrogen oxides selected from the group consisting of an alkali metal, e.g. lithium, sodium, potassium, etc., an alkali earth metal, e.g. barium, calcium (see, for example, page 4, lines 5-55).

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EP 666,099 further discloses that an oxidation catalyst is located in the exhaust gas treatment unit, upstream of the catalyst (see, for example, page 9, lines 51-54).

With respect to storage component for NO_x comprises no catalytically active platinum group metals. EP '099 discloses any one of the following noble catalysts, Pt, Pd, Rh, and etc. can be used as the catalytically active components (page 4, lines 5-14) and therefore, the exhaust gas treatment unit of EP '099 discloses at least one embodiment wherein said storage component comprises no platinum group metals. Alternatively, EP '805 teaches the selection for the NO_x storage/decomposition catalyst (page 7, lines 1-35) for a given exhaust gas treatment is depended on the oxidizing ability and its temperature dependency (for example, Pt of high oxidizing ability and low optimum temperature range, Cr is used for low oxidizing ability and higher optimum temperature range) (page 9, lines 5-15). Thus, it would have been obvious in view of EP '805 to one having ordinary skill in the art to provide a storage component of EP '099 with platinum metal group or other catalyst group metals as taught by EP '805 depending on the oxidizing ability and its temperature dependency of the catalyst. With respect to claims 11, 12, 13, EP '099 discloses that the catalyst is present in form of a honeycomb structure is formed by extrudable composition of catalytically active component of SCR and at least one of storage component (see, for example, page 8, lines 16-23) or honeycomb structure is formed by extrudable composition with SCR then coat with NO_x storage component (page 8, lines 23-28) or honeycomb structure is formed by extrudable composition with coating of SCR and NO_x storage component (page 8, lines 28-37).

6. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applied references (EP '099 in view of EP '805) and further in view of Japanese Publication Number 2000157870 (hereinafter JPN '870) or Feeley et al. (6,471,924). The apparatus of the applied references is substantially the same as that of the instant claims, but fails to disclose the specific arrangement of the catalytically active component and the nitrogen oxide storage component on the carrier structure. JPN '870 teaches the conventionality of providing a carrier with a first layer of NOx storage component directly onto the carrier and a second layer of catalyst on top of the NOx storage component and such configuration maximizes the NOx conversion rate (Abstract and Fig. 1). Likewise, Feeley et al. '924 teaches the carrier (10) comprising of a first discrete underlayer 20a comprising of NOx storage component over the carrier (10) and a second discrete overlayer 20b of catalyst over the NOx storage component or the layers can be reversed (Col. 7, lines 35-45). Thus, it would have been obvious to one skilled in the art to arrange the layers for the SCR catalyst and NOx storage component since positioning the parts of the apparatus is no more than a design choice, and well within the knowledge of one skilled in the art as evidenced by JPN '870 or Feeley et al. '924 and since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

Response to Arguments

Applicant's arguments filed November 3, 2006 have been fully considered but they are not persuasive. The amended claims 1, 2, 11-13, and 29 necessitates new grounds of rejection.

(1) The 102(b) art rejection with respect to Tsuchitani is withdrawn; thus, rendering moot.

(2) Applicants argues "Kinugasa does not disclose an exhaust gas treatment unit comprising an oxidation catalyst for oxidizing nitrogen monoxide to nitrogen dioxide and downstream thereof one catalyst in honeycomb structure with a catalytically active component for SCR of nitrogen oxide and at least one storage component for nitrogen oxides, wherein the at least one storage component comprises at least one compound of the recited elements which are able to store nitrogen dioxides by forming nitrates, and wherein the storage component lacks a catalytically active platinum group metal." Examiner respectfully disagrees. It is submitted that Kinugasa (EP '805) discloses such features as described in paragraph 4, above.

(3) The art rejection of Kinugasa in view of Tsuchitani and DE 198 06 062 is withdrawn; thus, rendering moot.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom P. Duong whose telephone number is (571) 272-2794. The examiner can normally be reached on 8:00AM - 4:30PM (IFP).

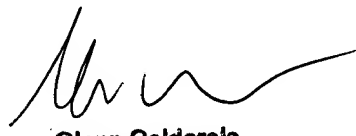
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tom Duong
June 27, 2007

TD



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